

## AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of determining whether a human individual has a predisposition to migraine comprising

obtaining a biological sample from said individual, said sample comprising at least a first nucleic acid from said individual that comprises a nucleotide sequence of at least a fragment of exon 8 of a human estrogen receptor (ESR1) gene that encodes codon 594 of an estrogen receptor protein; and

determining whether there is a polymorphism in said nucleotide sequence at said codon 594 consisting of a guanine to adenine change at nucleotide 2014 of the ESR1 gene,

wherein the presence of the polymorphism in said nucleotide sequence indicates that said individual has an increased predisposition to migraine compared to an individual without the polymorphism.

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Currently Amended) The method of Claim 13, wherein the polymorphism is detected as a restriction fragment length polymorphism.

6. (Canceled)

7. (Previously Presented) The method of Claim 1, wherein said sample further comprises a second nucleic acid comprising a nucleotide sequence of at least a fragment of intron 7 of a human progesterone receptor gene.

8. (Currently Amended) The method of Claim 7, wherein ~~the first nucleic acid comprises a polymorphism that is a guanine to adenine change at nucleotide 2014 of the human ESR1 gene and/or the second nucleic acid comprises a 306 base pair insertion in intron 7 of the human progesterone receptor gene.~~

9. (Canceled)

10. (Cancelled)

11. (Canceled)

12. (Canceled)

13. (Currently Amended) The method of ~~any of Claims 1, 4 or 9,~~ wherein migraine is migraine with aura or migraine without aura.

14. (Previously Presented) The method of Claim 1, wherein the determining comprises amplifying said first nucleic acid with one or more primers for nucleic acid sequence amplification of said at least a fragment of exon 8 of a human estrogen receptor (ESR1) gene that encodes codon 594 of an estrogen receptor protein.
15. (Canceled)
16. (Previously Presented) The method of Claim 14, wherein the determining further comprises digesting amplification products with a *BtgI* restriction endonuclease.
17. (Previously Presented) The method of Claim 7, wherein the determining comprises amplifying said second nucleic acid with one or more primers for nucleic acid sequence amplification of said at least a fragment of intron 7 of a human progesterone receptor gene.
18. (Canceled)
19. (Canceled)
20. (Canceled)
21. (Canceled)
22. (Canceled)
23. (Canceled)
24. (Original) The method of Claim 1, wherein the determining step comprises digesting said nucleic acid.
25. (Original) The method of Claim 1, wherein the determining step comprises gel electrophoresis of said nucleic acid.